USERS MANUAL

PT7

HEARTWAY

HEARTWAY MEDICAL PRODUCTS CO., LTD.

Part no:70030134

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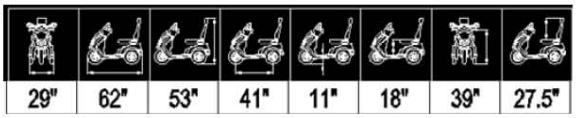
TECHNICAL SPECIFICATIONS

HEARTWAY

MONARCH ROYALE

PT7

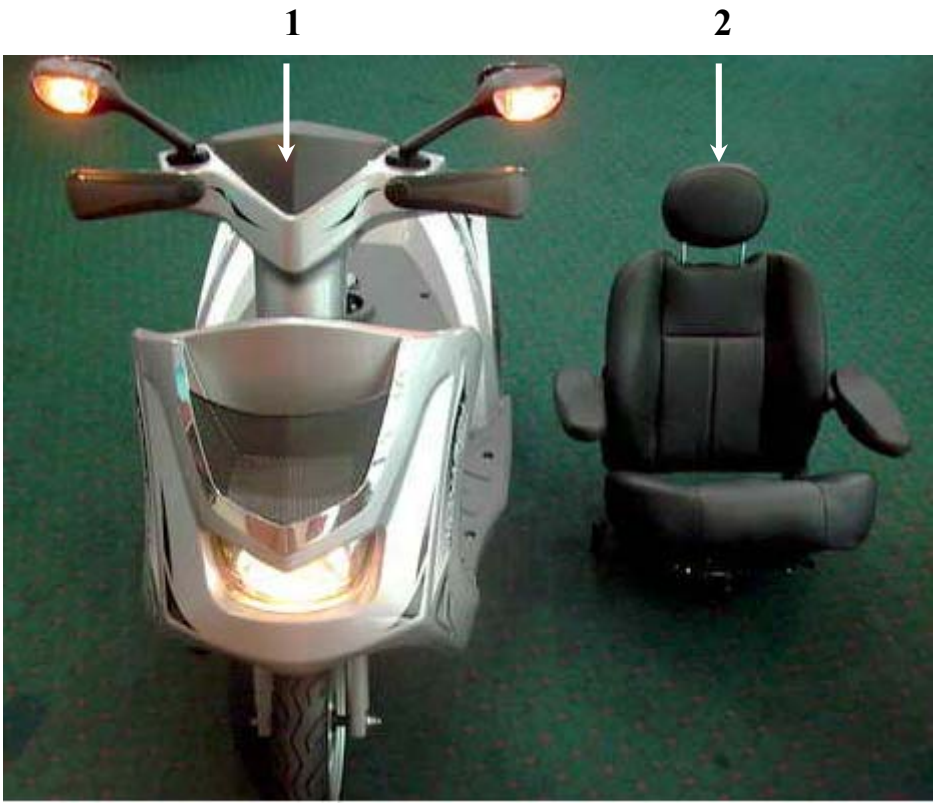


MODEL	PT7 ROYALE
WEIGHT CAPACITY	160kgs(352lbs)
SEAT: TYPE/SIZE	20"
DRIVE WHEEL	100/80-10"(16"OD)
FRONT CASTER (WHEEL)	3.00-10"(16"OD)
REAR CASTER (ANTI-TIPPER)	-
MAX SPEED	15km/h(9.5ml/h)
BATTERY SPECIFICATIONS	12V 80Ahx2Pcs
BATTERY RANGE	50km(32ml)
CHARGER TYPE	8Amp,Off Board 120/240 Volt, 50/60 Hz
CONTROLLER TYPE	160Amp
MOTOR TYPE	1300W
LENGTH	1580mm(62")
WIDE	730mm(29")
HEIGHT	1350mm(53")
TURNING RADIUS	1260mm(49.5")
WEIGHT: W/ BATTERY	160kgs(352lbs)
W/O BATTERY	110kgs(242lbs)
SUSPENSION	FULL

MAJOR ASSEMBLY

Your power scooter is shipped partially disassembled for protection during shipping. After unpacking, please check whether you have received the following main components as our standard specification (See Fig.1).

1. **Scooter (without seat)**
2. **Captain Seat**



(Fig. 1)

SAFETY INSTRUCTION

◆ OPERTATION OF SCOOTER

1. To prevent injury to yourself or others, always ensure that the power is switched off when getting on or off of the scooter.
2. Always check that the drive wheels are engaged (drive mode) before driving.

Engaged

(Fig.2)

3. Always check you have selected the correct" forward or reverse" button when about to drive.

Selected driving direction.

(Fig.3)

4. Press the button and allow the driving at LOW speed as shown

on the control Panel until you are familiar with the scooter. Set the speed control according to your driving ability.
5. Always reduce your speed when making sharp turns.
6. Do not switch off the power when the scooter is still moving forward. This will bring the chair to an extremely abrupt stop.
7. Use gel/dry batteries only.

◆ Ramps and Curbs

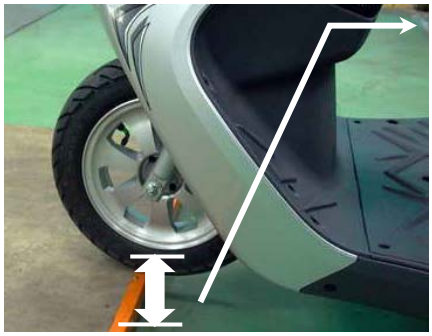
1. Also check that ramp surface is roughened to prevent slipping. Never drive across a slope or turn sharply on a slope.

(Fig.4)

(Fig.5)

When driving up or down ramps, be sure to check that the angle of the slope is less than 10 degrees (slopes about 1/6).

2. When driving up curbs, always check the height of the curb to ensure that it does not exceed 120mm height.



(Fig.6)

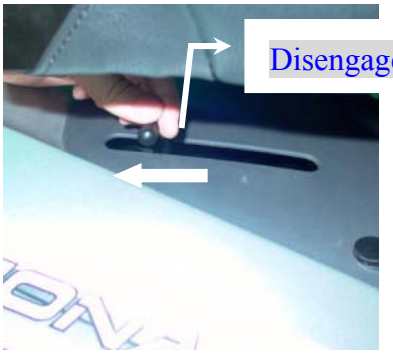
Maximum height 120mm

◆ Transferring at Free-Wheel Condition

(1) Turn off the power

(Fig.7)

(2) Disengaged the motor



Disengaged Position.

(Fig.8)

(3) The function of the Micro-switch Brake System in the scooter.

When transferring at free-wheel condition, a brake system will appear if the transferring speed is more then 30% of the scooter's maximum speed.

(Fig.9)

◆ General

1. Always use a seat belt, and keep your feet on the scooter all the time.
2. Do not over load the scooter with it's maximum weight capacity of 160kg (352lbs)
3. Do not attempt to lift or move a power scooter by any of its removable parts. Personal injury and damage to the power chair may result.
4. Never try to use your scooter beyond its limitations as described in this manual.
5. Do not operate your vehicle if it is not functioning properly.
6. Do not connect any electrical or mechanical device to the scooter. Failure to obey this instruction may result in injury and will void the warranty.
7. Never use electronic radio transmitters such as CB, walkie-talkies, portable computers or cellular phones while using the vehicle without first turning the scooter off.

◆ Use While Under The Influence Of Medication Or Alcohol

1. Check with your physician if you are taking any medication that may affect your ability to operate your power scooter safely.
2. Do not operate your scooter while you are under the influence of alcohol, as this may impair your ability to operate your power scooter in a safe manner.

◆ Electromagnetic interference (EMI) from Radio Wave Sources

The rapid development of electronics, especially in the area of communications, has saturated our environment with electromagnetic (EM) radio waves that are emitted by television, radio and communication signals. These EM wave are invisible and their strength increases as one approaches the source. All electrical conductors act as antennas to the EM signals and, to varying degrees, all power wheelchairs and scoot-
ers are susceptible to electromagnetic interference(EMI). The interference could result in abnormal, unintentional movement and/or erratic control of the vehicle. The United States Food and drug

Administration (FDA) suggests that the following statement be incorporated to the user's manual for all power wheelchairs like the PT7. Power wheelchairs and motorized scooters (in this section, both will be referred to as powered wheelchairs) may as susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy emitted from sources such as radio stations, TV stations, amateur radio (HAN) transmitter, two-way radios and cellular phones. The interference (from radio wave sources) can cause the powered wheelchair to release its brakes, move by itself or move in unintended directions. It can also permanently damage the powered scooter's control system. The intensity of the EM energy can be measured in volts per meter (V/m).Each powered scooter can resist EMI up to a certain intensity. This is called "immunity level". The higher the immunity level, the greater the protection. At this time, current technology is capable of providing at least 20 V/m of immunity level, which would provide useful protection against common sources of radiated EMI.

Following the warnings listed below should reduce the chance of unintended brake release or powered scooter movement that could result in serious injury:

1. Do not turn on hand-held personal communication devices such as citizens band (CB) radios and cellular phones while the powered scooter is turned on.
2. Be aware of nearby transmitters such as radio or TV stations and try to avoid coming close to them.
3. If unintended movement or brake release occurs, turn the powered scooter off as soon as it is safe.
4. Be aware that adding accessories or components, or modifying the powered scooter, may make it more susceptible to interference from radio wave sources
   (Note: It is difficult to evaluate the effect on the overall immunity of the powered scooter).
5. Report all incidents of unintended movement or brake release to the powered scooter manufacturer, and note whether there is a radio wave source nearby.

TURN OFF YOUR POWERED SCOOTER AS SOON AS POSSIBLE WHEN EXPERIENCING THE FOLLOWING:

- Unintentional scooter movements
- Unintended or uncontrollable direction.
- Unexpected brake release

The FDA has written to the manufacturers of power scooters asking them to test new products to be sure they provide a reasonable degree of immunity against EMI. The FDA requires that a powered wheelchair should have an immunity level at least 20 V/m, which provides a reasonable degree of protection against more common sources of EMI. The higher the immunity level, the greater the protection. Your powered scooter has an immunity level of 20 V/m which should protect against common sources of EMI.

ENVIRONMENTAL CONDITIONS

Environmental conditions may affect the safety and performance of your power scooter. Water and extreme temperatures are the main elements that can cause damage and affect performance.

A) Rain, Sleet and Snow

If exposed to water, your power scooter is susceptible to damage to electronic or mechanical components. Water can cause electronic malfunction or promote premature corrosion of electrical components and frame.

B) Temperature

Some of the parts of the power scooter are susceptible to change in temperature. The controller can only operate in temperature that ranges between 18℉(-8℃) and 122℉ (50℃).

At extreme low temperatures, the batteries may freeze, and your power scooter may not be able to operate. In extreme high temperatures, it may operate at slower speeds due to a safety feature of the controller that prevents damage to the motors and other electrical components.

WARRANTY

Quality/ Warranty Declaration

Products are to be fit for purpose and of excellent quality and performance. For valid warranty claims Heartway will, at their discretion, replace/ repair/ refund items mutually agreed to be defective.

Heartway's warranty as following:
(1) Frame: two year limited warranty
(2) Electronic Components and Charger: one year limited warranty.
(3) Controllers: one and half year limited warranty
(4) Batteries: not warranted.
(5) Consumables (wheel tires, arm pads, and seat cushions): not warranted.

Any damage or defect of any nature occurring from the misuse of the product is not to be covered. The warranty is to start from the date of arrival of our products.

ASSEMBLY INSTRUCTION

It is very easy to assemble your PT7 scooter. Please follow the procedure below .

1. Tiller Positioning

Press down the lever, fold the tiller up to vertical position and let it lock into your preferred position. (See Fig 2)

(Fig.9)

Always apply the force at this position when adjusting the angle.

(Fig.10)

Gently push the lever downward

2. Installing the Seat

Put the seat axle into the seat post and let it lock automatically. (See Fig 11)

(Fig.11)

6. Installing the Batteries (you can omit this step if your scooter already assembled with the batteries)

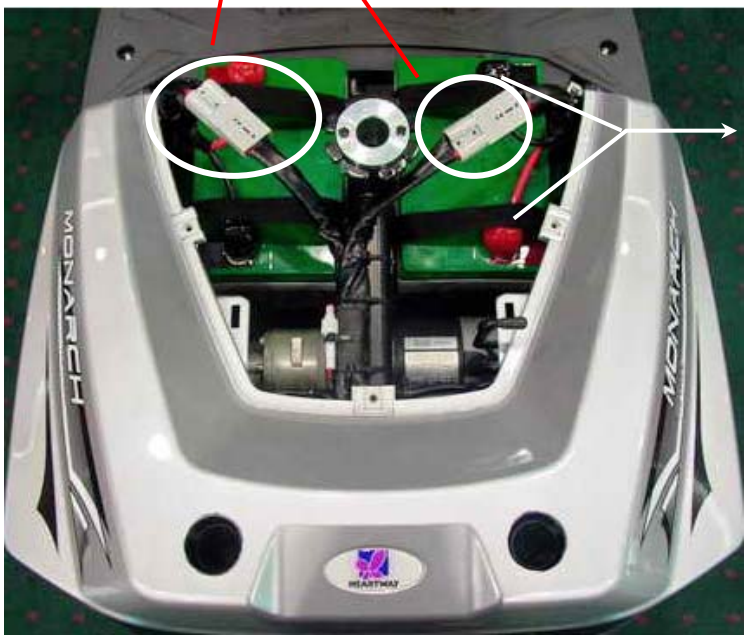
Release the screw nuts with your hand.

(Fig.12)

Lift off the shroud from the base frame gently

(Fig.13)

Connected



(Fig.13)

+ / − pole (Red is positive, black is negative)

Connect each battery harness ring terminal to the batteries terminal posts. Observing battery positive and negative polarity color coding

ADJUSTMENTS FOR SEATING CONFORT

A. Armrest Position Adjustment

Turn the round plate and adjust to your position. Anticlockwise will move the armrest upward and clockwise will be downward

(Fig.14)

B. Seat Rotation and Position Adjustment

B-1: Seat Rotation Adjustment

→ press down the seat rotation lever

→ rotate your seat by clockwise or counter-clockwise direction.

→ let the lever lock into the corresponding notch. Note: There is a lock in 90° position whenever you turn by clockwise or counter-clockwise direction.

(Fig.15)

(Fig.16)

B-2: Seat Position Adjustment

→ lift up the seat position lever

→ slide your seat backward or forward to your desired position

→ let the lever lock into your preferred position.(See Fig 16)

Note: The distance of adjustment from backward to forward is 150mm.

(Fig 17)

C. Backrest Angle Adjustment

→ lift up the lever located at the left side of the seat

→ adjust the backrest position to fit what is most comfortable for you from 105° to 135°. (See Fig 12)

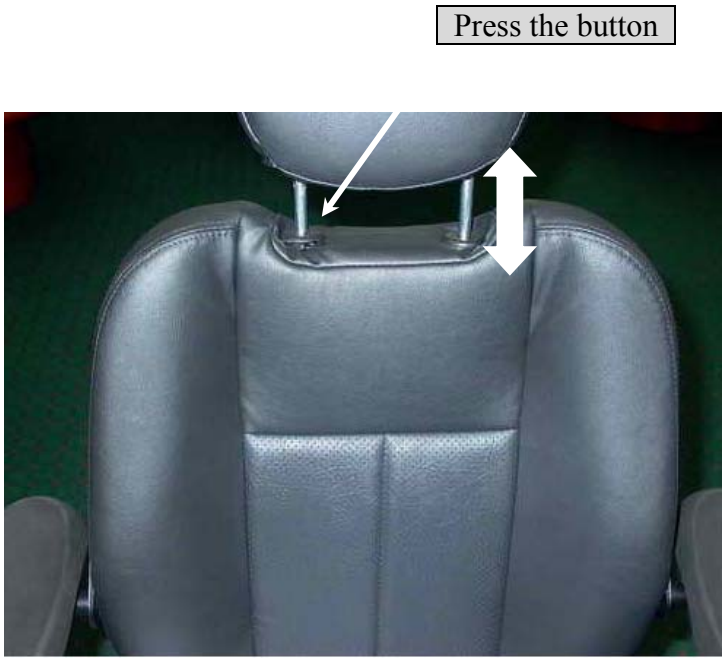
Backrest angle adjustment

(Fig.18)

D. Headrest Height Adjustment

→ press the button and lift up or down the headrest to your desired position

→ let the button lock into the corresponding notch. (See Fig 13)



(Fig 19)

OPERATION AND CONTROL PANEL

SCOOTER CONTROL PANEL
(LCD)

SPECIFICATIONS

FOR：JSC501(LCD)

△					PREPD BY	CHK	APPR		DATE
△							TEST	DESN	
△									
△									
△					NAME：				
△	Updated Functions	070829			**Scooter Control Panel (LCD)**				
	New Spec.	061012			DWG NO：				
REVISION RECORD		DATE	PREP	CHK	**JSC501**				

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1. APPEARANCE

LCD（Liquid Crystal Display）Scooter Control Panel, TN Mode

2-1 Function Descriptions

FUNCTION		SPECIFICATION
1	**Speed Sensor**	7 Segment display (2.5 digits +1 decimal) + “km/h / mph” symbol
2	**High / Low / Turn Speed**	Indicated as “H” and “L” symbols
3	**Power Indicator**	Battery remaining capacity and charging indicator (6 squares + Battery Icon)
4	**Clock**	Hour / Minute / Second display and setting
5	**Odometer**	ODO (99999 km max), TRIP (99.9 max)
6	**Main-Beam (Headlight)**	“Power-saving” mode, Blue LED
7	**Back-up Lamps**	“Brake / Reverse” modes, Orange LED
8	**Right-Indicator**	Flash mode, Green LED
9	**Left-Indicator**	Flash mode, Green LED
10	**Parking Lamp**	Including “Reverse Mode”, left- indicator and right-indicator flashing simultaneously, Red LED
11	**Malfunction Message**	Malfunction code: 7 Segment display (1digit) + Warning symbol + Red LED
12	**Power-on Scan**	All LED turn on
13	**Temperature (TEMP) Gauge**	“°C / °F” modes
14	**Reverse Light**	“Reverse” symbol flashing

2-2 Button & LED

FUNCTION	SPECIFICATION
Buttons	"MODE" switch Function set Left-Indicator control Right-Indicator control Parking Light control Headlight control High / Low speed switch Back-up lamps control Horn
LED Indicators	Left-Indicator (Green) Right- Indicator (Green) Parking (Red) Headlight (Blue) Warning (Red) Back-up lamp (Amber)
LCD Backlight	Illumination: 700 mcd min (Orange color)
LOGO Backlight	Blue color
Connecter	CON1: 20PIN

3. Usage Conditions

ITEM	SPECIFICATION
Voltage	DC 24 V
Operation Voltage	DC 16 ~32 V
Storage Temperature	-40°C ~ 90°C
Operation Temperature	-25°C ~ 55°C
Meter Angle at Handle Cover	30° of elevation while scooter assembly (LCD orientate to six o'clock)

4. Characteristics Test

General Characteristic Performance Test (20 ± 5℃)

Hardware Circuit:

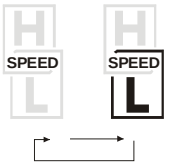
ITEM	SPECIFICATION	RESULT (n =)
Lowest Operation Voltage	16V max	____ V
Consuming Current (V_B = 24.0V)	Dynamic: 200 mA max -- Backlight and LED light status Static: 5 mA max -- Key OFF status	____ mA ____ mA

5. OPERATING INSTRUCTION

5-1. Speed Sensor and Display

ITEM	SPECIFICATION
Operation Features	Speed detection by speed sensor from transaxle with conversion at 1400rpm equal to 60km/h.
Tolerance	15~20%
Digits range	≤ 19.9: 0~19.9 > 19.9: displayed by integer "20~199" (199 max)
Display Switch Button	Initial setting at km/h, switch to MPH by MODE and SET buttons

5-2. High / Low / Turn Speed

ITEM	SPECIFICATION
Operation Features	(1) Switch High / Low speed by pressing button once. (TRN as control signals) Press one time: High-speed <<--->> Low-speed (with memory storage). (2) Take exterior turn-switch as determinant signal (TRN as control signals).
Symbols on LCD	” H” symbol means “High Speed”: ” L” symbol means “Low Speed”: ” L” symbol flashing means “Turn Speed”: 
Flicker Frequency	1 sec.

5-3. Power Indication

<table>
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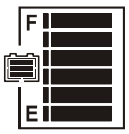
(6)</td><td>＞ 25.42</td><td>  </td></tr>
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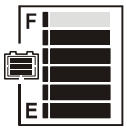
(5)</td><td>≦ 25.42</td><td>  </td></tr>
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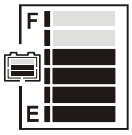
(4)</td><td>≦ 25.12</td><td>  </td></tr>
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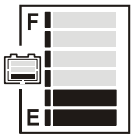
(2)</td><td>≦ 24.42</td><td>  </td></tr>
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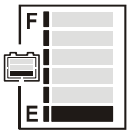
(1)</td><td>≦ 23.88</td><td> 
and Flashing</td></tr>
<tr><td>20</td><td>Low-power Warning</td><td> Warning LED Flashing</td></tr>
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<tr><td>Flicker Frequency</td><td>2 sec.</td></tr>
<tr><td>Operation Characters</td><td>(1) Scale status only decrease, won’t increase.
(2) When the remaining capacity was less than 30%, warning sound (“Be-Be” two short sounds) act at 5 seconds intervals.
While (a) Key Off (b) Charging Mode (c) Sleep Mode, warning sound released.</td></tr>
</table>

<table>
<tr><th>ITEM</th><th>SPECIFICATION</th></tr>
<tr><td>Charge Indication</td><td>
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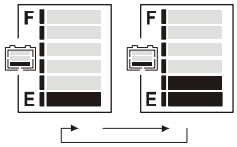
(2)</td><td>＜ 25.44</td><td>  </td></tr>
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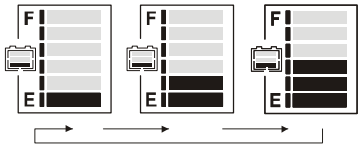
(3)</td><td>＞ 25.44</td><td>  </td></tr>
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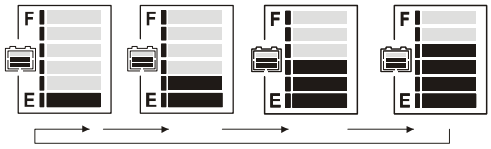
(4)</td><td>＞ 26.18</td><td>  </td></tr>
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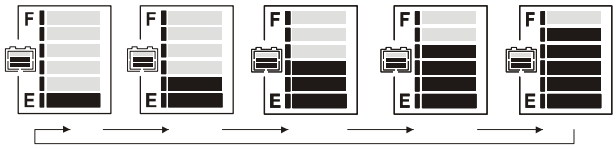
(5)</td><td>＞ 26.92</td><td>  </td></tr>
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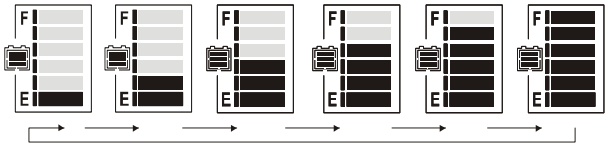
(6)</td><td>＞ 28.5</td><td>  </td></tr>
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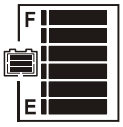
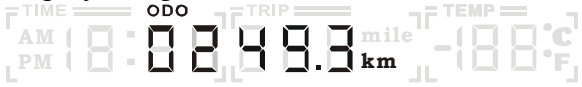
(7)</td><td></td><td>  </td></tr>
</table>
</td></tr>
<tr><td>Increase Frequency</td><td>0.5 sec.</td></tr>
<tr><td>Operation Character</td><td>(1) Scale status only decrease, won’t increase.
(2) Take the PIN3(CH3) of charger as determinant signal, enter「Charging Mode」when CH3 grounding (L), not only “KEY ON” or “KEY OFF”.</td></tr>
<tr><td>Remarks</td><td>Above scale bar status only for reference, must take the indicator of charger as the precise diagnosis.</td></tr>
</table>

5-4. Clock

ITEM	SPECIFICATION
Tolerance (per day)	±2 sec.
Initial Setting Value	『Hour：Min』mode :『AM 12:00』
『Hour : Min』Setting (12-Hour format)	Display range : AM12:00 ~ PM11:59 When『Hour』is between 1 and 9 o'clock, displayed at 1~9.

5-5. Odometer

ITEM	SPECIFICATION
Operation Features	Odometer detected by the signal of Opto Coupler then converts into distance.
Display Switch Button	「km/h」 means the odometer displayed as kilometer. 「mph」 means the odometer displayed as mile.
Accumulative Display [ODO]	(1) Display Range:00000~99999  (2) Once the total mileage up to 99999km or 62149mile (99999÷1.609mile), the counter will restart from "00000".
TRIP Counter	(1) Display Range：00.0~99.9 (2) When over 99.9km, display stop counting (won't restart from "00.0").
Operation status	(1) Odometer indication display on ODO mode when Power On, then switch to TRIP mode after 5 seconds. (2) TRIP can be reset to "00.0".

5-6. Headlight Control

ITEM	SPECIFICATION
Operation Feature	Take exterior headlight switch as determinant signal. (1) Switch on/off the head light by pressing button once, then LED will turn on/off simultaneously. (2) LCD backlights turn on / turn off with head light.
Power Saving Mode	When motor stop, the modulation down to 30% (Headlight) When motor act, 100% output power (Headlight)
Usage Condition	While (a) KEY OFF (b) Power-Saving mode (c) Sleep mode , all functions closed.
Determinant Condition	(1) 2.2V＞WIP＞2.8V (100% Full-power) (2) 2.2V＜WIP＞2.8V (100% Full-power) (3) Full / Half power switch at real time. (4) The determination of “Reversing Mode” need to consider the motor direction and panel setting.
Remarks	(1) Loop Load: 24V/50W max (2) With “short circuit” and “overload” protection

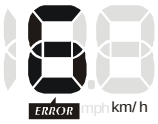
5-7. Back-up Lamp Control

ITEM	SPECIFICATION
Operation Feature	Take exterior back-up lamp switch as determinant signal. (1) Switch on/off the head light by pressing button once, then LED will turn on/off simultaneously. (2) LCD backlights turn on / turn off with head light.
(Control Mode) **Brake-lamp Mode** **Reversing-lamp Mode**	When motor changes from act (go forward) to stop, the lamp reinstated after flashing for 3 sec. Determine as "Reversing Mode", back-up lamp keep flashing. Reverse warning sound can be set by panel (Turn on / Turn off)
Usage Condition	While (a) KEY OFF (b) Charging Mode (c) Sleep Mode, all functions closed. * Brake-lamp & Reversing-lamp Mode won't be limited by Back-up lamp switch on or off.
Flicker Frequency	1 sec.
Determinant Condition	(1) 2.2V＞WIP＞2.8V (50% Half-power) (2) 2.2V＜WIP＞2.8V (100% Full-power) (3) Full / Half power switch at real time. (4) The determination of "Reversing Mode" need to consider the motor direction and panel setting.
Remarks	(1) Loop Load : 24V/50W max (2) With "short circuit" and "overload" protection

5-8, 9, 10. Indicators and Parking-Lamp Control

ITEM	SPECIFICATION
Operation Feature	Take exterior left-right indicators and parking-lamps switch as the determinant signal.
Control Mode **(Left-direction lamp)** **(Right-direction lamp)** **(Parking lamp)**	Press button once, the right-indicator and turn off, left-indicator and flashing, warning sound act. Press again to turn off left-indicator. Press button once, the right-indicator and turn off, left-indicator and flashing, warning sound act. Press again to turn off left-indicator. Press button once, turn on, right-left indicators and flashing , warning sound act . Press again to turn off the Parking lamp function.
Usage Condition	While (a) KEY OFF (b) Charging Mode (c) Sleep Mode, all functions closed.
Flicker Frequency	1 sec.
Warning Sound Frequency	One short “Bi” sound per second
Determinant Condition	Left-Right indicators have priority to Parking lamp. <*Ex.*> *If “Parking lamp” turned on already, now you start “Right indicator” function, the flashing indicator lamps will change from both side (left & right) to right side, and the “Parking lamp” function will be closed.*
Remarks	(1) Load circuit for left-direction light: 24V/50W max (2) Load circuit for right-direction light: 24V/50W max (3) With “short circuit” and “overload” protection

5-11. Malfunction Message

ITEM	SPECIFICATION
Operation Feature	Take the connector pin (KEY) of controller as determinant signal, then converts it into digital code.
Usage Condition	When the controller send out an error message, red LED flashing with controller signal at same time, the "Error message code" will show on LCD. 
Flicker Frequency	1 sec.

Controller message (Flicker)	**Message code**	**ERROR symbol**	**LED (Flicker)**	**Status**
1	--	--	Flashing, opposite to controller message.	Battery needs charge soon.
2	2	On		Low-voltage, needs charge now
3	3	On		Over-voltage
4	4	On		Over-current
5	5	On		Park Brake lost or faulted
6	6	On		Accelerator not align center
7	7	On		Accelerator broken or faulted
8	8	On		Motor broken or faulted
9	9	On		Others

5-12. Power On Self Test

ITEM	SPECIFICATION
Initial Status	When scooter power on, the control panel will go through a self-test routine; the backlight and all LCD segments will be tuned on for 3 seconds, then switch automatically to the general operation mode (ODO).

5-13. Temperature meter (TEMP)

ITEM	SPECIFICATION
Operation Feature	Temperature detected by temperature sensor (NTC) from transformation with signal.
Tolerance	± 2°C
Display Range	-20°C ~50°C -4°F ~122°F
Display Switch Button	When display °C, degree stand for Celsius thermometer When display °F, degree stand for Fahrenheit thermometer

5-14. Reverse Indicator

ITEM	SPECIFICATION
Operation Feature	Take exterior forward / backward switch as determinant signal.
Power Saving Mode	When switch direct to “forward”, no symbol on LCD. When switch direct to “backward”, symbol flashing on LCD.
Flicker Frequency	1 sec.

5-15. Adjust Buttons

ITEM	SPECIFICATION
Button	[redacted] "MODE" [redacted] Function set switch
General Display Mode (TRIP)	Press [SET] for 3 seconds to reset TRIP at "00.0".
Setting Mode	Press [MODE] and [SET] simultaneously for more than 2 seconds. to enter "Setting Mode", then 『Hour：MIN』start flashing. (1) When 『Hour』 flashing: Press [SET] to increase of number, then press [MODE] to enter "Setting Mode" of 『MIN』. (2) When 『MIN』 flashing: Press [SET] to increase of number, then press [MODE] to enter "Setting Mode" of 『km/h & mph』. (3) When 『km/h』 or 『mph』 flashing Press [SET] to choose "km/h" or "mph" type, then press [MODE] to enter "Setting Mode" of 『°C / °F』 (4) When 『°C』 or 『°F』 flashing Press [SET] to choose °C or °F .
Escape from Setting Mode	Under setting mode, if below situations happened, will auto save the last setting value then escape to general operation mode. (1) No any operation of ADJ button for 20 sec. (2) Press [MODE] and [SET] at same time for more than 2 sec.
Operation Status	(1) 『Hour：Min』, 『km/h』 or 『mph』, 『°C』 or 『°F』 offer Cyclical Switch function. (2) When adjusting 『Hour：Min』, press [SET] to increase number, if press [SET] for more than 2 seconds, the number will increase continuously until button released, setting value with Cyclical Switch function (only 2 seconds from 0 to 9). * If 『Hour』 less than 10, the denary "0" doesn't display.。
Remarks	Button tones: one short "Bi" sound

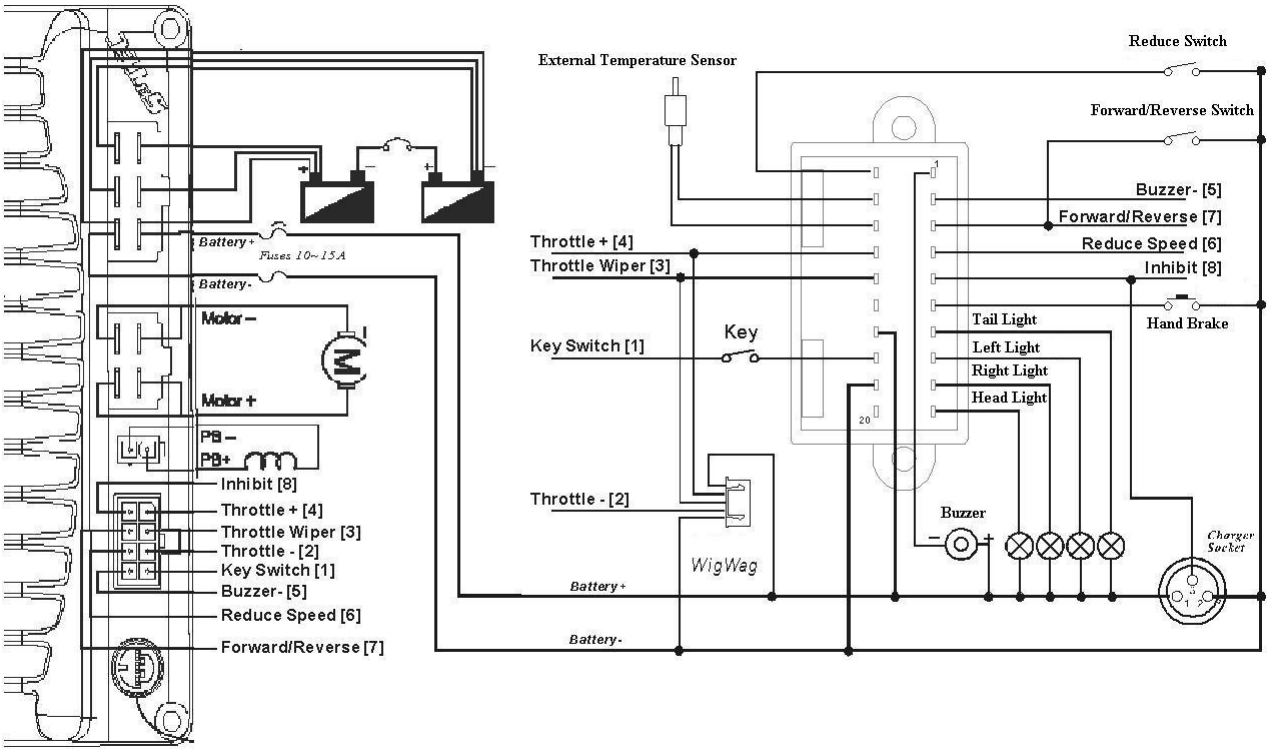
5-16. LCD Backlight

ITEM	SPECIFICATION
LCD Backlight	When pressing [MODE] and [SET] buttons, the backlight will be turned on voluntarily and turned off No any operation of ADJ button more than 5 sec.

6. System Configuration

ITEM	SPECIFICATION
Controller	Ds162K01 Series
Charger	CTE 8A
Battery	WP12280 *2 (Series connection)
WigWag	CTE NCW-K001
Bulb	24V / 50W max
Tire-Diameter Circumference	Tire diameter circumference of ____ mm

7. Circuit Diagram



BATTERIES & CHARGER

BATTERY

We recommend that you use deep-cycle batteries that are sealed and maintenance- free for your power scooter. Both sealed lead-acid (SLA) and gel cell are deep-
cycle batteries and are similar in performance. Deep-cycle batteries are specially designed to provide power, drain down, and then accept a relatively quick recharge. Lead-acid batteries should be charged as often as possible.

Specification of the battery that we recommend:

Type:	Deep –cycle sealed lead-acid or gel cell
Size:	80AH
Voltage:	12V each
Amp Hours:	80 amp hours

Depending on the use, terrain and driving conditions, the batteries will provide a range of 32 miles of travel. However, even if the power scooter is not in use, we recommend that the batteries be charged periodically.

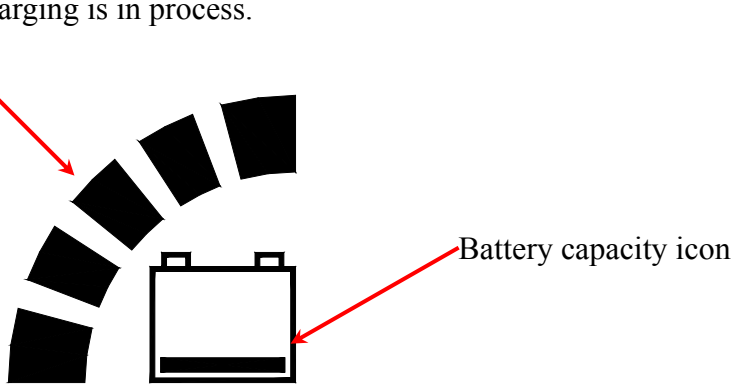
Note:

→Do not use any automotive batteries. They are not designed to handle a long, deep discharge and also are unsafe for use in power scooter.

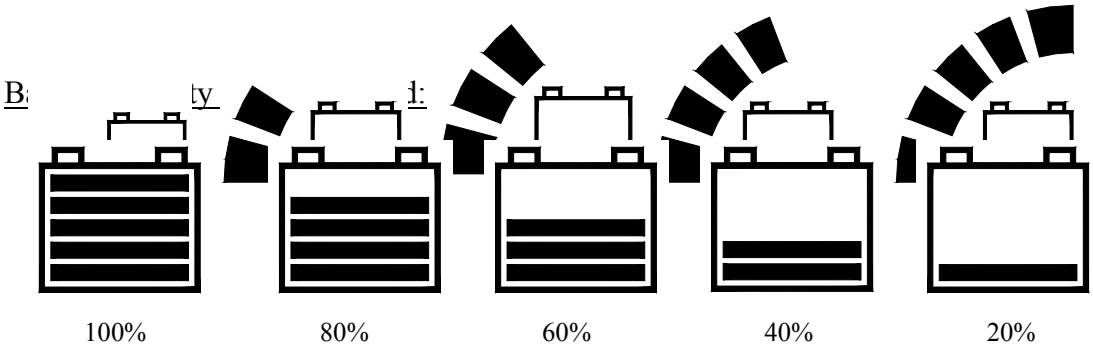
→The useful life of a battery is quite often a reflection of the care it receives.

Note: Display a charging battery

Display battery recharging is in process.



When battery charging is in progress the LED display (increases from the lowest scale to the highest scale in a repeat action.)



(voltage >28.19V) (voltage > 27.82V) (voltage >27.45V) (voltage > 25.71V) (voltage < 25.71V)

* Recharge battery only when the key is in off position. When indicator is showing low status, this confirms battery needs recharge.

Note:

→Always charge your batteries in well ventilated areas.

→The charger is intended for indoor use only. Protect from moisture.

→For maximum performance , it is recommended that you replace both batteries at the same time if the batteries are weak.

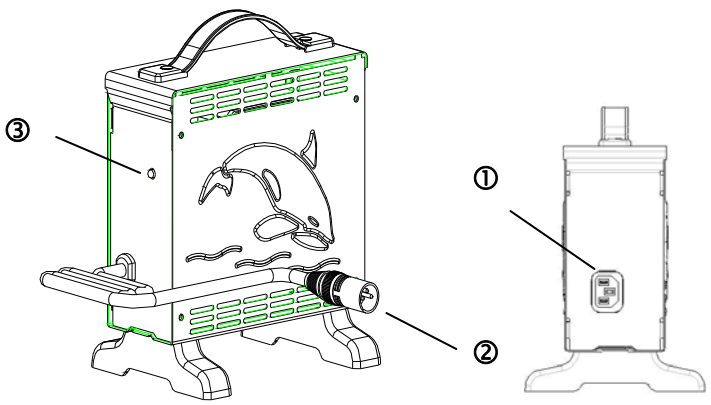
→If the vehicle will not be used for a long period of time, arrange to have the batteries recharged at least once every month to avoid deterioration of the batteries..

According to the battery type and condition of the batteries, they usually can be fully charged in 4-10 hours. This will be indicated when the status light in the battery charger side panel turns green. Charging the battery longer will not harm the battery. We recommend that you charge the batteries for 8 to 10 hours after daily use.

Battery Charger Instruction

8A

1.APPEARANCE



①Power Cord
②Output Plug to Battery
③Indicator :
Green Flash : Power On
Orange Flash : Pre Charge
Orange : Charging
Green&Orange Flash : Charged 80%
Green : Full Charge
Red Flash：Defect

Important!

Make sure voltage input is correctly selected for your location (110V or 220V) and adjust manually.

2. SPECIFICATION

Item	BATTERY CHARGER (SWITCHING MODE)
Model	4C24080A
Output Current(DC)	8A±5%
Charging Voltage(DC)	28.8V
Floating Voltage(DC)	27.6V
Input Current (AC)	3.8A max.
Input Voltage(AC)	100 ~ 240 V 50/60Hz
Efficiency	AC-DC 85% min
Operating Temperature	0°C ~ 40°C
Switching Method	SWITCHING MODE
Charging Method	Constant current two stage constant voltage
Battery Application	24V Lead Acid Rechargeable Battery (26Ahr ~ 75Ahr)
Output Detection	1.Short Circuit Protection 2.Reverse Power Protection 3.Overheat Protection 4.Charging Plug Protection

Operating Humidity	20％ ~ 85 %
Measure	L 185mm×W 130mm×H 195mm
Weight	1.7K g
Color	Blue

3. CHARGER OPERATING INSTRUCTION

(1)Make sure the battery charger output voltage is the same as the connecting battery.

(2)Plug in the power cord. LED indicates green flash when AC power on.

(3)Connect the battery charger to the battery.

(4)Start charging ; please refer to 4. LED INDICATION

4. LED INDICATION

(1)Green Flash：Power on

(2)Orange：Charging

(3)Orange Flash：Pre charge

(4)Green&Orange Flash：Charged 80%。

(5)Green：Full charged(Floating charge)。

(6)Red Flash：Defect

5. TROUBLE SHOOTING

(1) If green indicator is off：

- Check AC input. If it works normally, the battery charger may be defect.

(2) If green indicator keeps flashing , can't turn to charging indication：

- Check if the battery connect successfully.
- Check if the output connection is short or open.
- If the battery connection is normally , the battery charger may be defect.

(3) If red indicator keeps flashing ：

- Check if the battery connection is reversed.
- Check if the output connection is short or open.
- Check if the environment temperature is too low (0^oC)
- If the red indicator still keeps flashing , the battery charger may be defect .

(4) Charging indicator (orange) can't turn to green：

- The battery might defect , please stop charging and have the battery be repaired.

(5) If the charging indicator (orange) turns green (fully charged) immediately：

- The battery may be in well-charged condition
- If the battery is not fully charged, the battery may be defect .

6. CAUTION

(1) Before using the battery charger, read all instructions and cautionary markings.

(2) Use the battery charger in a well-ventilated area

(3) To avoid the risk of injury, charge only lead-acid or gel cell type rechargeable batteries.

(4) Please turn off the power after charging